

ABSTRACTDEVICE AND METHOD FOR PRODUCING RADIOISOTOPES

5

The present invention is related to a device and a method for producing a radioisotope of interest from a target fluid irradiated with a beam of accelerated charged particles, said device comprising in a circulation circuit (17):

- an irradiation cell (1) comprising a metallic insert (2) able to form a cavity (8) designed to house the target fluid and closed by an irradiation window (7), said cavity (8) comprising at least one inlet (4) and at least one outlet (5);
  - a pump (16) for circulating the target fluid inside the circulation circuit (17);
  - an external heat exchanger (15);
- said pump (16) and said external heat exchanger (15) forming external cooling means of said target fluid; said device being characterized in that it further comprises pressurizing means (14) of said circulation circuit (17) and the external cooling means of said target fluid are arranged in such a way that the target fluid remains inside the cavity (8) essentially in the liquid state during the irradiation.

(Figure 1)